/330 cont./

C & 177 The Chiriguano adopted this civilization of a superior type with all the more ease by reason of the numerous affinities it offered with their own. The whole Amazonian and Guianan side of the Chané civilization was composed of industries, techniques, and practices with which the Chiriguano, having come from the tropical regions of America, from a country of great forests and rivers, were already acquainted in part. Thus, for example, the Guarani, upon arriving among the Chané, found again the hammocks, grain sieves, mortars, baskets, and weapons to which they were accustomed.

C & Ce 177 The contribution of the Chané consisted of the very cultural elements they had received from the Andean peoples, that is, clothing (camisetas, headband, etc.), the liking for silver ornaments, some artistic motifs, certain pottery forms, etc., things which were scarcely beginning to filter into Ce [323] Paraguay. The influence of the Chané was decisive in the sphere of pottery.

C & 177 563 323 [161] Ce 178 323 177 The civilizing action of the Chané upon the Chiriguano had as agent the Chané women whom the Chiriguano captured and married. The Guarani had certainly taken along with them only a small number of girls. They themselves were few in number at the beginning, 4,000 according to Lizárraga (Vol. I, p. 260). In uniting with the Chané women whom they carried off by the thousands, they renewed with their blood all the feminine aspects of their industry. It is the women, for example, who make /331/ the pottery; a man would not be able to engage in it without losing prestige. So we see the pottery of the Guarani undergo important modifications and change completely. Today pottery is their glory; and of their ancient ceramics they have kept only the humble pots or the brewing vats for chicha. In spite of their decline the Chané have maintained their traditional superiority in this art, and they continue to produce vessels which, if they are not comparable to those of the past, are often very beautiful.

/370 cont./

415 531 It is distinguished especially by finger impressions, which decorate the neck of nearly all the common pots.

● 323 While watching the Chiriguano potters work, I realized that the finger impressions which so often decorate their vessels result automatically from the process of fabrication. At the moment when the potter forms the neck of the vessel, she has to press the roll constituting this part between her thumb and index finger and no longer with the flat of the hand as she has done up until then. The vessel is generally too narrow in this zone to allow putting in the whole hand. The result of this is a whole series of finger impressions which vaguely give the effect of ornamentation. Now the potter rubs them out in order to remake them more symmetrically. Thus this motif which adorns most of /Plates XVI and XVII appear here/ /371/ the vessels in common use among the Chiriguano is obtained, so to

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Fig. 35. Small vessel (yapeporai) decorated with fingernail impressions. The lines of contact between the three rolls of clay of which it is composed are still visible. Prov.: Carutí. (1/3 nat. size.)

323 say mechanically. From the neck these decorations have been extended to the rest of the vessel for an aesthetic purpose, but their occurrence on the upper part influenced the rest.

/371 cont./

415 531 Certain vessels (Fig. 35) have the exterior surface entirely covered with these depressions obtained by pressure of the thumbnail. The Indians call this decoration tatupire, that is "armadillo carapace," /Fig. 37 appears here/ a completely justifiable comparison.

One can consider as an evolution of the process of ornamentation by finger impressions the angles or chevrons which decorate the outside surface of the vessel of Figure 2, Plate XVI /see p. 125/, which have been incised in the soft clay with a pointed instrument. This type of ornamentation can be reduced to its simplest expression; thus on the neck of the vessel of Plate XVII, 2 /see p. 127/ it is limited to a row of little cavities made with a pointed stick. The small vessel of Figure 36 /see p. 128/ with a belly flattened from top to bottom belongs, from the decorative point of view, in the same category.

415 531 171 On another vessel (Plate XVI, 1) the small nipples which project /372/ all around the belly constitute a summary decoration which completes that of the neck formed by fingernail impressions. Pots of this type are found among the Ashluslay (Nordenskiöld, 9, Fig. 65, p. 218).

This decoration is exceptional in South America. Jijon y Caamaño (p. 6) considers it characteristic of the northern part of Ecuador. He points out its distribution in Central America and in the Mound region in the United States.

[126] The îru of Plate XVIII, Fig. 2 /see p. 131 / has the exact shape of a calabash; this resemblance was intentional, for the Indian woman who sold it to me presented it at the same time as the calabash which /Fig. 38 appears here/ had doubtless served as a model. Vessels which are almost replicas of this specimen have been found at Jachal and Calingasta in San Juan province in Argentina (Ambrosetti, 1, Plate VII, and Debenedetti, 3, Fig. 41, p. 69).

415 [462] 415 323 The Chiriguano call the vessels in which the women draw the water they need for their households by the Quichua name îru. The îru are characterized not only by their more or less globular shape and the narrowness of the neck on top, but also by the quality of the paste from which they were

C /372 cont./
323 modeled. The latter is extremely fine, of very good quality,
[415] and, when fired, forms a compact, hard, and resistant mass. This clay is inherently not very porous; to render it still more impermeable the Chiriguano potters give the vessel a long polishing while it is still unfired but nevertheless very dry. This is applied on the exterior walls of the receptacle and gives them a brilliant and metallic appearance which at first sight would be taken for a glaze. This operation has the effect of making the vessel almost impermeable and thus of avoiding the evaporation which takes place more or less rapidly in most Chiriguano receptacles. The narrowness of the neck at the top of these vessels serves a similar purpose.

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Fig. 38. Ashluslay vessel.
Prov.: Estero Patiño.
(1/3 nat. size.)

The îru can be of any size: there are very large ones like the Chané specimen of Plate XVII, 1 /see p. 127/ and other very small ones (Plate XVIII, 4 /see p. 131/) which little girls use to help their mothers and /Plate XVIII appears here/ /373/ become initiated into housework. Vessels 1 and 3 of Plate XVIII represent rather rare close forms, which derive from the primitive type but which have been perfected. The handles with which these îru are provided allow them to be carried on a trip in place of gourds.

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[172] Prototypes of the Chiriguano îru have been furnished us by Debenedetti's excavations (2, Fig. 119, p. 171) on the Isla de Tilcara.

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804 439 [177] The Chiriguano measure the cloth which Syrian peddlers come to offer them with varas, that is, a stick about 80 centimeters long, the length of the ancient Spanish vara. This instrument has been borrowed from the Bolivian half-breeds.

Chapter VI

121 ## Art among the Chiriguano and Chané Indians

To Professor Félix F. Outes.

The artistic sense of the Chiriguano is manifested in pottery decoration, pyrography, and wood carving.

We shall study these three activities one after the other.

Pottery Technique

114 323 The Chiriguano pottery technique has been studied briefly by Campana (p. 54), following Father Giannechini's notes, and by Outes (3, pp. 122-123), who adds some details communicated to him by the naturalist Holmberg to the ones he took from Campana's work. Nordenskiöld (1 and 10, pp. 142-147) completed on many points Campana's brief survey, so that I myself shall have few new things to note.

317 323 [439] The clay used by Chiriguano potters comes from beds well known to the Indians, where they go from time to time to lay in fresh supplies. It is enough to see old vessels full of earth around a hut to know that a woman lives there still practicing the ancestral industry. Where adequate clay is lacking, pottery is imported. Thus in the Tigüipa mission all the vessels in use were made in Machareti.

323 In order to be used the clay must be degreased with powder /383/ coming from potsherds. Fragments of old vessels are ground in a mortar until, after being put through a sieve, they give a fine powder which is kneaded for a rather

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323 long time with the clay. This paste must have all the impurities removed, which is done in the course of the kneading (Fig. 56).

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Fig. 56. Fabrication of a vessel: the clay, after being mixed with pulverized potsherds, is kneaded. (Photographs taken by the author at Masaví in the Igüembé Valley.)

323 When the potter has obtained an elastic and sticky paste, she molds the base of a vessel, which she puts either on a piece of cloth or a small board. The foundation of the future receptacle looks like a disk raised on its periphery. A

/383 cont./

323 Chiriguano woman will never be seen making one single vessel at a time: since before continuing she must wait until each one of the parts making up the piece of pottery is dry, she occupies this interval by beginning another vessel, which will dry while she works on the first one again.

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Figs. 57-58. Vessels (yapepó). The rolls of clay of which they are composed are still apparent and constitute a rudimentary ornamentation. No. 57 comes from Carurutí, No. 58 from Yacuiba. (1/4 nat. size.)

323 /384/ When she judges that the bottom has taken on some firmness, she rolls between her hands a roll to which she tries to give a regular diameter. Then she applies it on the base, forming a perfect circle. She cuts off the part which extends beyond the junction point. Next she flattens the roll with her hand, the compression being made from inside to outside, with the back of the left hand and the right palm. When the whole periphery has thus been raised, she evens off the edge, filling all the depressions with pieces [824] of wet earth. Then she smooths the outside of the vessel with a [212] stripped ear of corn and a splinter of bamboo. These two instruments are placed beside her and frequently dipped in water so that the earth [239] does not stick to them. The inside surfaces are polished with the valve of a shell (anodonta) (Plate XXV, 2). The raw clay, once it is shaped, is supple and resistant like leather. Vessels can be

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• 323 made only in the sunshine. One day when rain threatened to fall, the women hurried to grab the vessel they were in the act of making and to carry it into the hut. It was swinging on all sides during this moving, but did not break at all.

From base to neck the vessel is constructed in the same fashion, the number of rolls superposed varying with the size of the vessel but never being very large. The handles are added last. Some are twisted and have been obtained in the following manner: a long, thin roll is bent in two and rolled on itself.

When finished, the vessel is put to dry. After it has hardened, the potter rubs it on the inside with a shining, polished stone (tankua or ita-nkua) (Plate XXIV, 3-4) until the surface is rendered shiny as /Plate XXIV appears here/ /385/ if glazed. The purpose of this operation is to avoid porosity of the inner wall of the vessel, which without that would be too permeable. The exterior of ordinary vessels is left as is. Vessels that are to be painted are apparently also polished on the outside. The polishing of the vessel is done over several days and slowly. The potter does it with great care (see Fig. 66).

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If the vessel is to be painted, the color is applied with a brush made of agouti hair or feathers held together in a tuft with wax (Plate XXIV, 1).

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The coloring materials used by the Chiriguano and Chané are of mineral and vegetable origin. The first are taken from rocks, of which I have had samples examined petrographically and chemically.

Chemical analysis gave the following results: the yellow samples contain clay (aluminum silicate and calcium carbonate) and iron in the form of hydrated oxide; the reds are of the same composition but contain less hydrated iron oxide and more iron oxide. In a specimen of yellow-brown ocher the iron oxide is abundant. In another, hard and compact, of a red-violet tint, the iron is almost entirely in the state of anhydrous oxide.

The yellow, red, and dark-yellow ochers, when heated in a test tube, change color and become dark red, with the exception of the violet specimen which remains invariable.

[Text continues on P. 154]

1: Métraux--153 E-5 (1929) 1930 SF:0 Chiriguano SF:0

Plate XXIV

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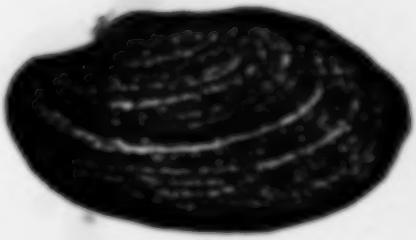

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Accessories of a Chiriguano potter. -- 1. Brush made of feathers held together with wax. Prov.: Ibopeytí. (Nat. size.) -- 2. Valve of a fresh-water mollusk (inta), used to smooth the inside surface of the vessels. Prov.: Ibopeytí. (1/2 nat. size.) -- 3 and 4. Stones used for polishing the exterior and interior surfaces of vessels before firing (inta-nkua). These two stones were found inside a funerary urn in Cararutí. (2/3 nat. size.) -- 5. Excrescence formed by an insect on the branches of trees of resinous species, which the Chiriguano utilize for tracing out black and shiny figures on their vessels (tarawirisi). Prov.: Ibopytí. (1/2 nat. size.)

/385 cont./

Two gray minerals are silicates of aluminum and calcium with traces of iron. They are almost pure clays.

A jet-black mineral is a calcareous manganese-bearing complex (manganese dioxide in the form of oxide crossed by veins of calcite).

Petrographically, these samples are some yellow ochers very compact (manganese-bearing, quartzose) or somewhat sandy, some very sandy red ochers, and finally slightly sandy clays.

The ochers all give a red color, pyrolusite (?) furnishes black, and the pure clays the yellowish white on which red and black motifs stand out (1).

> 1. [illegible] (10) p. 103): "The colours used by the Chiriguano and the Chané on the Rio Itiyuro are black, red, brown and white. The white is caolin, the red, brown and black are obtained by pulverizing schists of these colours." /cited in English./

323 Colors of mineral origin are applied on the walls of the dried and polished vessel before firing.

323 237 Most of the vessels from the upper Pilcomayo are distinctive because of motifs of a glossy, solid black which the Indians obtain by rubbing, shortly after firing, with a resinous excrescence looking like a white muff, which a kind of cochineal (?) forms around /386/ mimosa branches (in Chiriguanot ikayaiti) and in which she deposits eggs (Plate XXIV, 8).

According to Father Giannechini (Diccionario Chiriguano-Español, etc., p. 310), who was the first to note the use of this material, it was a question of the viscous saliva of an ant (?) which sticks to the trees. The /Fig. 59 appears here/ Chiriguano potters would use it to paint their vessels after mixing it with roucou. In reality, this information is inexact. The resinous muff is not made of saliva but a kind of manna or lac. It is rubbed directly against the sides of the vessel to produce the solid, glossy black of certain motifs.

1: Méreau--150 E-6 (1959) 1980 SF10 Chirigoano SF10

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• 323 The paintings on some vessels produce a particularly successful /387/ effect, thanks to the alternation of brilliant.

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Fig. 50. Fabrication of a vessel: the inside surface is polished after being flattened with the hand.

323 (386) solid red with black of the same nature. The first of these colors is taken from the famous rouron, whose oily pâte is mixed with resin, kneaded into a loaf, and melted on the hot walls of the vessel.

Ir Métraux--156 E-5 (1929) 1930 SF10 Chiriguano SF10
Chané SF8

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C 323 386 The name tarawirisi is also given by the Chiriguano to objects resembling loaves of bread kneaded by hand which are composed of a resinous material mixed with wax. According to the explanations given me by the Indians themselves, this

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Fig. 60. Forked tree-trunk serving as a shelf for putting vessels on. (After a sketch by the author.)

C 323 386 substance is taken from a mimosa. After being sprinkled with boiling water, it is kneaded and dried in the sun. Its color is yellow or red, but after firing it becomes black.

I could not learn whether this black glaze was applied over a layer of black paint or spread directly on the walls of the vessel. In every case the designs made by this process are much less regular than the ones drawn with a brush.

C [194] Ee 116 323 386 My collections of pottery, which consist of nearly 200 pieces, do not contain any glazed specimen. Nordenskiöld (10 p. 144) assures us that the Chiriguano and the Chané of the Parapití coat their yambui with a sort of gum called tarawisi, a word which, except for one syllable, is the same as the one designating the resinous substance we have just been considering.

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/387 cont./ This makes me think that glazing implies a technical process analogous to the one in use on the upper Pilcomayo.

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The Chaco Indians draw crude decorations on their vessels with palo santo resin, which they apply after firing. According to Nordenskiöld (id. supra), the Chané of the Itiyuro probably use the same method to decorate some of their vessels with black designs.

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After being painted, the vessel is put in the shade to dry for several days. It is only when the sides have acquired a certain hardness that the firing process is begun. The vessels are then taken to a spot where there is plenty of dead wood. A large quantity is collected, with which the vessels are covered from bottom to top. Generally, long pieces of bark are selected, which burn brightly.

They set fire to this pyramid of wood and, with a long pole, the /388/ potter watches to see that no brand burns directly against the walls, which would bring on a "shot of fire." When she ascertains that a vessel gives a metallic sound on being touched, she scatters the firebrands with her pole and, by rolling it, makes it go out of the fire.

It may happen that in the course of the firing a vessel may suffer some cracking. This is remedied by taking a little moist earth mixed with dung and applying it on the split while the vase is still hot. The fissure closes, but remains noticeable.

Classification of Chiriguano Pottery

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The figures which illustrate this text, the plates published by Nordenskiöld (10, pp. 155-162), and the diagram of Outes (3) give a better idea of the more common forms of this pottery than any description. However, a few remarks are called for.

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Vessels with a subglobular belly surmounted by a low, wide neck flaring at the top constitute, without doubt, the most widespread type. (Plates XXXV-LVII.)

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415 The plant kingdom hardly inspires Chiriguano artists. The
531 vessel of Plate LII, Fig. 3, is the only one whose decoration is clearly phytomorphic; and again in this case I am not sure that

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Fig. 61. Fabrication of a vessel: the exterior surface is smoothed with a chip of bamboo after being flattened with the hand.

415 a European model did not serve as an intermediary between nature
531 and the picture the potter portrayed.

/390/ Among the 200 vessels I collected in Chiriguano
[126] country there is not one that includes a figuration of the human
[179] face, with the exception of the one to which I have alluded, whose form betrays the desire to satisfy the stupid puerility of THE TOURISTS.

C 531 415 184 Ce 531 415 /390 cont./ surmounted by a volute is a motif which appears often in this region. Triangles with a solid surface combine to form either denticulate bands or somewhat hourglass-shaped figures whose effect is pleasing to the eye (Plate XXXIX, 1: Plate XL, 2; Plate XLI; Plate XLII, 1; Plate XLIII, 1; Plate LII; Plate LIV, 1 and 3-4; LVII, 3-4; LV, 1 and 3, etc.).

C Ce 531 415 [323] Between the Chané vessels (Plate XXXVIII, 1; Plate LIII, 1-3) and the Chiriguano ones in the missions there are some differences which have less to do with the choice of motifs than with the manner in which they are treated. The Chané women have a purer taste and they evince greater sureness /391/ of hand than the Chiriguano potters. One senses clearly that the latter are only their pupils.

C 531 415 184 It is difficult for me to say what decorative style might have been in vogue in former times in the Caipipendí valley (Plate LVII, 2; Plate LX, 4; and Fig. 72). Painted vessels have become rare there, and the few examples I saw or acquired were in very bad condition. As elsewhere, they were covered with geometric figures: broken lines, triangles, /Fig. 62 appears here/ festooned bands, etc. The individuality of Caipipendí pottery shows itself more in the form of some vessels than in their decoration.

Ce 415 177 [131] [114] [511] Since I could not visit the Chané of the lower Parapití, I have no idea of the characteristics of their pottery. Nordenskiöld (10, p. 144), who was more favored than I, declares that their pottery presents only a few traces of Andean influence, and he explains this fact by their isolation and poverty.

C 531 184 If now, instead of style, that is, the combination of motifs, we consider the latter in themselves, /392/ a feeling of unity will succeed our feeling of diversity. The same identical designs are repeated over the whole of Chiriguano territory, and only their relative frequency in a given area and the importance attributed to them to the exclusion of the others create these distinctions of style which I have tried /Fig. 63 appears here/ to define. Nevertheless, there are some decorative elements which are limited to a certain region: the spiral is

1: Métraux--162 E-5 (1929) 1930 SF10 Chiriguano SF10

/392 cont./

531 184 peculiar to the villages of the upper Pilcomayo and the Igüembé valley. The decoration made up of broken and asymmetric lines does not go beyond the zone of the Franciscan missions and the Itiyuro region.

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Fig. 62. Fabrication of a large vat: the roll of clay is rolled between the palms of the hands. (Photographs taken by the author at Masaví, Igüembé Valley.)

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Fig. 63. Fabrication of a large vat: the roll of clay is ready to be superposed on the preceding one.

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Decline of the Art of Pottery among the Chiriguano

323 178 415 Of all the Chiriguano industries the most threatened one is doubtless ceramics. The Chiriguano can claim the glory of having been until recently the last Indians of South America /Fig. 64 appears here/ to have a pottery which deserved to be included in the number of beautiful manifestations of this art, so brilliantly represented in certain regions of the continent. Today things have changed a great deal. Villages in which one can still find women capable of decorating vessels with the mastery of former days have become rare and are limited 415 126 178 to a restricted area. /394/ It was in the tolderías of the Timboy, the Great Salado and the Little Salado, in the region of Yumbía and in the Igüembé valley (upper Pilcomayo, departments of Tarija and Chuquisaca) that I was able to collect the finest specimens in my collection. Elsewhere it was exceptional /Fig. 65 appears here/ /see p. 166/ to be lucky enough to lay my hands on a fine piece; and, if I did have this luck several times, it was almost always a question of an old vessel pre- [797] served as if by a miracle. The Franciscan missions which formerly gave Nordenskiöld and Holmberg such fine specimens 797 323 415 178 [62] [463] contributed less toward enriching my collections. Nothing expresses the sad state of decline of the Chiriguano better than what I /395/ could observe in the Machareti mission. After going through nearly all the huts of this large village, which in normal times has close to 2,000 inhabitants, I could scarcely acquire five or six yambuí having some artistic value. There were no longer more than three or four women who still knew how to hold a brush and they had to /Fig. 66 appears here/ /see p. 167/ provide for almost the whole village. In a few years the ancient painted pottery will exist only in memory in the large village where the famous "Captain" Mandepona lived.

323 415 178 177 This decline has several causes. The first is the state of profound demoralization in which the Chiriguano are found, the total disorganization of their social life, and the increasing influence of the white men, followed by its corruptive effects: finally, the introduction of manufactured products, first and foremost gasoline cans.

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000 first and foremost gasoline cans. Artistic ceramics have become the
323 appanage of a few old women who are not founding a school and who
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Fig. 64. Fabrication of a large vat: the roll of clay is placed on the preceding one and flattened between the thumb and
[531] the other fingers of the potter. Finger impressions result from this, forming a crude design.

323 will carry the secret of their art to the grave. Already today,
178 obliged to satisfy a large demand, they endlessly repeat the same
463 motifs and have a vexing tendency to draw them hastily and
887 without any care at all. These designs are becoming awkward,
531 crude, and are taking on a primitive appearance which is far from corresponding to the taste and culture of the Chiriguano.

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Fig. 65. Fabrication of a large vat: the potter impresses her thumbnail into the still soft clay to obtain a regular design.

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In some villages there are no more potters. The inhabitants of the toldería of Ibopeyti, for example, have to import the painted vessels they need to celebrate festivals. When I wanted to acquire them, it was generally objected that they had been bought and often at a very high price. "You go away and leave us without vessels," they often used to say to me as a half-joking, half-sad good-by after my raids.

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323 178 Without wishing to pass as a prophet, I think I can assign five years of life to the artistic pottery of the Chiriguano. Already it is becoming difficult to make collections of it, at least collections having aesthetic value.

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Fig. 66. Fabrication of a large vat: when dry, the clay is polished with a well-polished stone. The purpose of this operation is to avoid all porosity in the surface of the vessel.

415 198 184 323 The state of decline and regression in which Chiriguano pottery is found explains perhaps the decided differences often existing in the pottery of the various regions inhabited by the Chiriguano. Artists being few, it is not surprising that their output varies little and that, because of this, the vessels of one village are all very much alike.

1: Métraux--168 E-5 (1929) 1930 SF10 Chiriguano SF10
Chané SF8
Omaguaca SI9

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323 415 198 184 In former times when artists were not lacking, the number of motifs used within each group must have been larger, and in this variety was doubtless found many an element which today seems to have disappeared, only to be met in another zone. It is probable that an ethnographer who might have made a collection among the Chiriguano a century ago would have established a classification other than the one I have tried to outline here.

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Comparative Study of the Basic Elements of the Painted Pottery of the Chiriguano and Chané Indians

1. The Problem of the Chincha Atacama Civilization

The pottery of the Chiriguano and Chané Indians shows such strong affinities with that of the ancient Andean populations from the point of view of form as well as decoration that their relationship cannot be doubted.

These analogies are especially striking among certain pieces /397/ of pottery dug up in the Quebrada de Humahuaca and the ones still made by Chiriguano or Chané women. With an interval of four centuries the resemblance between the pottery of these two regions is still so pronounced that it had attracted the attention of Mr. Debenedetti (2, pp. 134, 149, note 1, and 156), even though he apparently had for his whole basis of comparison only a few rare pieces of very simple Chiriguano pottery collected in the Chaco and of such uncertain provenance that one of them was attributed to the Choroti. The latter in reality, have pottery of an entirely different type, although also influenced by the Andean civilization.

O C Ce [648] [439] The affinities of Chiriguano pottery with certain pottery of the Quebrada de Humahuaca have been scientifically established by Nordenskiöld (10, p. 143). This scholar explains these surprising similarities very naturally by the influence the Indians of the Humahuaca region had on their immediate neighbors, the Chané or Chiriguano, and by the trade relations these Peoples maintained.

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C 531 171 105 which preceded Inca culture. If one compares the present-day pottery of the Chiriguano with that of the Quicha /Quechua/ of Cuzco, certain analogies will appear, but they will be neither abundant nor conclusive enough to establish a direct filiation. Aryballuses are missing or rare, ornithomorphic dishes seldom found, etc.; on the contrary, we have seen how multiple and close the ties are between this pottery and that of the Chincha-Atacama period. Chiriguano pottery, in relation to that of Cuzco, is in a situation analogous to that of northwestern Argentina: on an Andean but original base, influences from Cuzco have been superposed. This Inca action on the Chicha is attested to even today by /428/ the presence among the Chiriguano of footed vessels of the purest Inca type and apodal ones of the same origin. Arising from the same influence, one may add certain decorative motifs, with which I have already dealt.

A [531] 171 [415] Arawak and Amazonian tradition is scarcely represented, except by footed bowls (compoteras), vessels with a ribbed belly, those with a body in the shape of a truncated cone and a subspherical belly, and perhaps by some motifs (T-shaped figures, Plate XXXVIII, 1).

The conclusion of this chapter will be: there exists today and for some years to come a civilization which, closely related to that of the Chicha, continues an art earlier than that of the Inca but influenced by them. May this fact make archeologists cautious!

Chapter VII

Calabashes

C 531 462 [323] The second art in which the Chiriguano excel is pyrography and engraving on calabashes. When pottery-making was an essentially feminine activity, pyrography was the province of the men. Nordenskiöld (9, pp. 233-236) thinks, completely wrongly it seems to me, that pyrography is of Andean origin. He advances in support of this opinion the advantages that knowledge of metal offers to this art. Nevertheless, the populations of the

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1: Métraux--265 E-5 (1929) 1930 SF10 Chiriguano SF10
Diaguita SG6

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(Boman, 2, Vol. II, Plate LXXV, Fig. 186 c) reappears nearly identical on the pretty calabash of Plate LXII, 2.

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I can give no better argument in favor of the close analogy between the calabashes of the Andean region and those of the modern Chiriguano than by publishing the calabash of Plate LXII, 3 a and b, found in Diaguite territory in Catamarca province ("La Quebrada," Valle del Cajón). Its decoration is composed of incised and finely reticulated bands on a blackened background. The hooks which leave from the circle

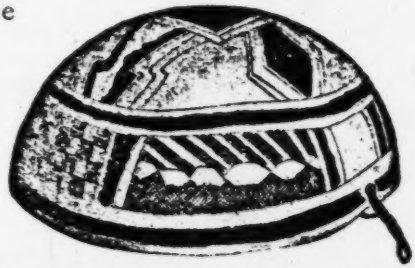

Fig. 84. Incised and pyrographed calabash. Prov.: Caratindi (Igüembé Valley). (About 1/2 nat. size.)

engraved on the top of the calabash and the sides of the latter strangely recall analogous motifs we have seen on Chiriguano specimens.

C 531 171

The spiral, which seems to have been a motif especially dear to the pyrographers of northwestern Argentina and the Atacama Desert, does not occur on any of the specimens in my collections, if one does not want to consider as rudiments of spirals or as degenerated spirals the hooks we see on some Chiriguano calabashes (Plate LXI, 2). It is interesting to ascertain that the spiral and the voluted triangle of Andean calabashes are typologically closely related to analogous motifs which the Chiriguano women of the upper Pilcomayo paint on their vessels. If these designs have been better preserved in pottery than in pyrography, it is doubtless due to the fact that the first art has remained closer to its origins. The women, who have the monopoly of it, are more conservative than the men, who decorate the calabashes.

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The contrast between a highly evolved pottery and a still rudimentary art of weaving is characteristic of the Indians of the tropical and subtropical regions of South America, at least for those who can pass for being relatively civilized, such as the Arawak and the Karib /Carib/.

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Fig. 95. Headband (tsumbi). Prov.: Yumbía. (1/5 nat. size.)

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285 This information needs to be completed. The technique
171 called wicker work was apparently known to the ancient Diaguite. A vessel from one of the Andean valleys in Tucuman province bears imprinted on its base impressions left by a tray or basket in wicker work, upon which the potter had placed this receptacle when the clay was still soft (Fig. 102). This discovery did not surprise me: already, and for a long time, I had supposed that this manner of plaiting baskets was not foreign to the peoples of the Andes. How otherwise could one explain the occurrence of wicker work among the half-breeds and Indians of Tarija department, the Araucan and Chiriguano Indians of the upper Pilcomayo?

Guiana forms a second area of dispersion of this technique without, however, its being very common there. The small bags in which the Patamona put the cotton with which they provide the arrows of their /447/ blowguns before blowing them are in wicker work, the same as the pegalls with the so-called "armadillo" motifs of the Arawak, Patamona, and Makuší /Macusi/. The baskets in the form of carafes or bottles of the Siusí /Siusi/ and Kauá /Caua/ of the Aiary River are also good examples of this technique. (On the modalities and distribution of this technique, see Roth, p. 140 and Plates 104, 105, and 106, and pp. 329-331.)

The distribution of this technique is wider in North America. It is known to the Indians of eastern Canada and abounds in /Fig. 102 appears here/ southern Mexico and in Central America. It appears scattered here and there on the Pacific Coast and in the interior basin.

Most of the fish weirs, the enclosures for stopping game during hunting drives, and the coarse baskets serving for the transport of numerous objects are made in this technique.

285 If one examines the baskets of this type among the Chiriguano,
● 323 one will doubtless be struck by the fact that several of them assume the form of pottery pieces. This resemblance is further accentuated by the fact that some (see Plate LXXV, 2 /see p. 299/) are provided with lateral handles in imitation of vessels. The interplay between these two industries is evident.

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10
Chané SF8

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Carrying devices.—In contrast to other *Guarani*, the *Chiriguano* do not have basketry knapsacks; women use large carrying nets with a tumpline. Babies are carried in a woven sling, straddling their mother's hip.

FIGURE 58.— *Chiriguano* and *Chané* pottery decorations. (After Métraux, 1930 b, pl. 32.)

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10
Chané SF8

MANUFACTURES

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Pottery.—*Chiriguano* pottery is, for the beauty of its painted decoration and the variety of its forms, outstanding in modern South America. The mixed origin of *Chiriguano* culture is reflected in the two types of earthenware vessels. The plain pots for cooking and the large jars for chicha, which did not differ from similar vessels of the Paraguayan *Guaraní*, were ornamented with fingernail impressions (pl. 41, *bottom, right*).

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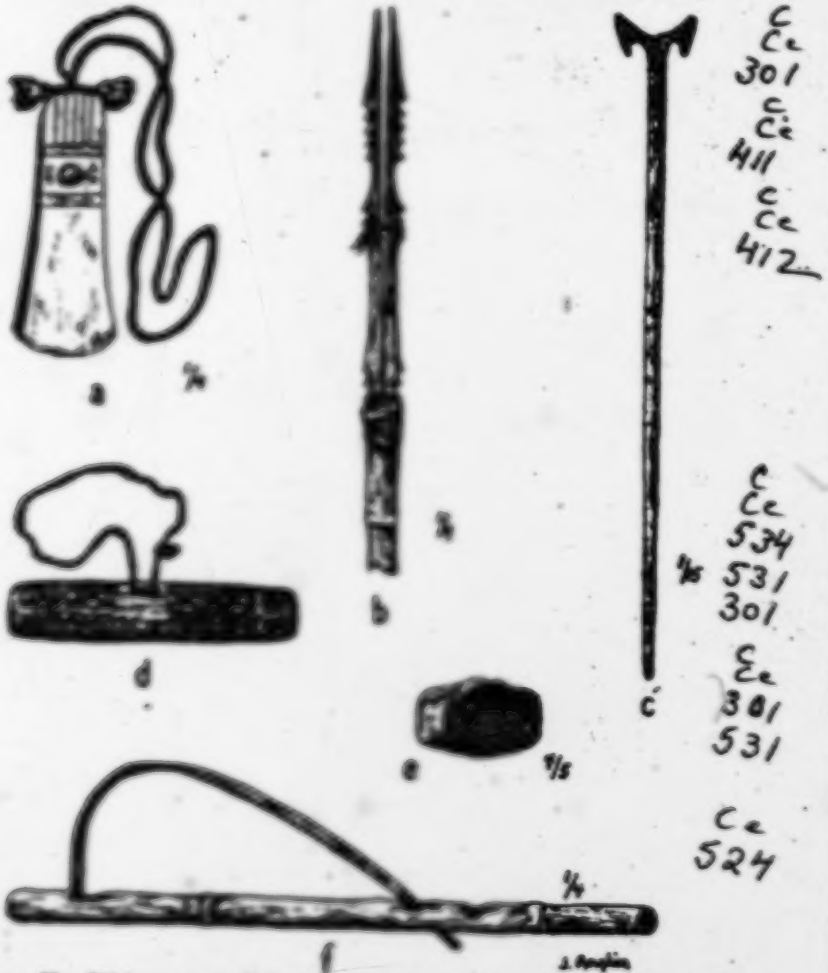

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FIGURE 38.—*Chiriguano* and *Chané* manufactures. *a*, Silver pincers used as breast ornaments; *b*, bird arrow point; *c*, handle to wooden spade; *d*, wooden whistle used as ornament; *e*, tin labret with mosaic inlay; *f*, *Chané* pea-shooter. (*a*, *d*, *e*, Redrawn from Rosen, 1924; *b*, *c*, *f*, from Nordenskiöld, 1920, figs. 20, 15, 5, 34.)

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10
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The de luxe vases and dishes, typologically related to vessels in the archeological pottery of southern Bolivia and northern Argentina, were decorated with distinctly Andean patterns (figs. 58, 60). The most common vessel is the *yambui*, a subglobular vase with ears, in which chicha was served. The motifs are mainly geometrical and most of them

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FIGURE 60.—*Chiriguano* pottery. Specimens at *top, right*, a *Nazcaloid* archeological specimen included for comparison. (Approximately 1/7 actual size.) (Redrawn from Métraux, 1930 b, fig. 70, pls. 35, 37, 44.)

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10
Chane SF8

are based on a triangle surmounted by a scroll, which is multiplied in countless variations.

Women potters (pl. 41, *top, left,* and *bottom, left*) tempered the clay with crushed potsherds and built up their vases by coiling. They painted them with several kinds of ocher and with black obtained from resin.

Spinning and weaving.—Among the *Chiriguano*, wool is more commonly used than cotton for textiles, but *Chané* fabrics are generally of cotton. The fibers are spun with a drop spindle weighted with a clay whorl (pl. 42, *center*). Although garments are in part Andean in shape, the loom remains of the vertical type. Formerly, indigo was the favorite native dye; today aniline dyes have entirely replaced it. The ornamentation of the fabrics is limited to a few stripes.

Netting.—Fishing nets and carrying nets are made by means of a wooden gage in a reef-knot technique.

Basketry.—Fans, round baskets with overlapping lids, and sieves are twilled with palm leaves in the best Guiana fashion, but wickerwork basketry is very common. No large baskets for carrying or storing food are made.

Gourds.—The painted, incised, or fire-engraved (fig. 61) gourds (*Lagenaria siceraria*) used as cups are, after pottery, the best expressions of *Chiriguano* art. The motifs are mainly geometrical, with occasional realistic representations.

FIGURE 61.—*Chané calabashes. Left:* Specimen with lid (approximately ¼ actual size). *Right:* Pyrogravured specimen (approximately ⅓ actual size). (Redrawn from Nordenskiöld, 1930, fig. 30 and Métraux, 1930 b, pl. 62.)

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PLATE II.—Chiriguano pottery and urn burials. Top, left and below: Pottery making. Top, right: Urn burials at Caiguasuti, Charo, Bolivia. (Courtesy Alfred Métraux.)

[End Plate 2]

/101 cont./
462 bulls, deer, etc. If all this carving were woman's work, it
415 would have but one name, Iarusuma, but since it is man's
531 work, each figure has the name of the quadruped, biped, or
reptile that it represents (2).

(825) 2. Thus they say Mathuru baengafo, figure of a lizard, Taimbe baengafo, figure of a dog. Even the men call the figure of a jaguar or a deer Iarusuma.

/102/ With this second task the work can be considered finished. Days or weeks are employed depending on the greater or lesser quantities of the motifs. They now color all the
(384) (231) incised figures with ground charcoal and paint the empty spaces with Urucú, achiote, making them firm with the Tayagüirai, which is abundant everywhere, then singeing them in the flame of the fire so that the pictures will never lose their shine and luster or the painting of carbon and urucú come off (1).

237 323 825 • 1. The Tayagüirai is a species of ant which is common in cold weather. Its length is not over half a centimeter and its thickness three. It moves about the small branches of certain small trees, where it leaves its speckled whitish excrement. All potters provide themselves with an abundance of this material.

Pottery

323 (462) (317) (484) I shall now go on to consider women's work, limiting myself to the most important, such as clay vessels and textiles. For the former the Chiriguano woman provides herself beforehand with the best clay, which she knows very well and even brings from long distances, if it is not found in the territory of the tribe. Naturally the potter not only wishes to avoid the loss of her labor, but also, insofar as she can, she wishes to

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323 avoid the loss of her reputation as a worker or master of an art which provides her with money and subsistence, despite the low price of the vessels (2).

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2. There exist some Christians who in their area prohibit the unfortunate Chiriguano women from removing clay from some good veins. For this and so many other reasons, as has been observed by the illustrious Father Pierini, the savage sees in the white, not a brother, but an enemy.

Before going on to the manufacture of the vessel, jar, or plate, the potter provides herself with a potsherd or several of these, depending on the size of the work which she wishes to do; if she cannot find it in the corners of her house because there are no broken pots, she borrows one from her neighbors, and if they do not have any or do not wish to do her the favor, she breaks one of the inferior and smaller ones. In the missions or wherever there are ovens to fire tiles and bricks, the potters can do without a potsherd; they find pieces of well-fired bricks or tiles around the ovens, and with this the primary material is complete.

/188/ Then she submerges an appropriate quantity of clay in water, as much as may be needed for the piece she plans, and she leaves it there until it is completely softened and can be kneaded better than wax. Meanwhile she reduces to the finest powder the potsherd, brick, or tile which she has managed to get, sifts it in the finest sieve, Umpe, that she possesses; next she kneads the softened clay, making sure that it does not harden too much, puts in it all the sifted powder, and mixes it so that it forms a perfect union with the clay, and leaves the lump thus prepared until the next day.

The potter, after having cleaned her house and her person as well, and having fed her children, sits down near the receptacle which contains the raw material, extracts an amount of clay, and begins to knead it, shaping it into the

/183 cont./

323 form of a sausage or thick meatball eight or ten centimeters in diameter, and with this first effort begins the piece in the cleanest and flattest space (1).

1. The lump for the piece is kneaded on a sheepskin or goatskin, on top of a potsherd, or on a piece of wood.

415 323 If a piece is of small dimensions, she finishes it rapidly. Plates, for example, are made very fast, and they can make up to ten in one day; the vessel for keeping water can be made in half a day, but the ones they call Yambui, a large vessel with a narrow mouth, and Ñae, one with a wide mouth, or cántaro, as they say around here, neither can nor should be finished in one day, both because they are large and because it is necessary to work with care and skill (2).

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2. The base of every piece is made out of a portion of clay which they flatten out like a tortilla, on which they make a small rim turned upward, and to this they keep joining the clay in the manner described. The burnishing, which they do with a maize cob, seems very insignificant, but is more than necessary. Without this operation the cámaro would not hold water, much less would it hold chicha.

One who hurried in the manufacture of large pots would never finish them, because the soft clay would always fall down; for this reason the procedure is a slow one. When the base and somewhat more has been made, they suspend the work for a while, so that it may dry through the action of the wind or breezes; in the meantime she continues to polish it, first with a maize cob, Atiígüe, and later with a special shell, Inta, and finally with a special stone about three centimeters in

/183 cont./
323 size, which they /184/ call Itaisi, with which the polishing of the pieces is completed (1).

1. The operations which they also perform with the shell and with the stone are for the purpose of giving fineness to the vessels and of closing any chinks.

[824] When they leave the piece which has been begun, they cover it with leaves of the Caasíro, palma Christi, and at the time when they begin it again they dampen the edges with a small rag. This rag serves also for dampening the piece before polishing it with any of the above-mentioned tools. When it is finished and before it has been exposed to the air very long, they polish it with the Itaisi, and, when it is quite dry they fire it if it is not to have pictures on it.

531 [192] Every painted piece of pottery is called Sacuarama. The paintings are white, black, and red. The white is called Tovanti, the black Itau, and the red Itaurucu. They grind [237] up the three colors separately, dissolve them in water, and apply them with a slender feather from a chicken or other bird. The figures are varied; those of trees, animals, and men are rare; they are lines, unintelligible groupings. Without knowing it themselves, they follow a general system, and some of them make fine pieces, especially for storing water.

323 [843] In order to fire them they select a still day, and a big piece is carried to the forest, because there is plenty of firewood there and also to avoid having pregnant women coming close to watch, because their presence, according to what they [239] say, would make the vessel break. They pile firewood around it and light it, taking care that the fire does not go out before it is burning well; sometimes instead of firewood they also use dry cow-manure, and it seems that this is very good for even- [237] ness of the baking. If the pot has paintings, they let it cool a little when they take it out of the fire and then quickly pass over the pictures the excrement of the Taraguirisi, which melts with

/184 cont./

323 [237] the force of the heat and remains over the paintings like a binder, without which they would disappear the first time it was used. The Taragūirisi remains on the vessels like a light coat of rubber and the white of the Tovanti becomes opaque (2).

2. When a pot is slightly damaged, they heat it in the fire and on the inside and outside apply the Taragūirisi, and it is as good as before.

/185/ Textiles

286 462 [294] Another important occupation of the Chiriguano woman is weaving the Asoya for her husband, brother, or son, and the Cutama for herself. For this she prepares the wool or cotton, spins it opposite the way the mestizo and European women spin, and then bleaches it and finally dyes it.

286 In order to weave, they set up two tall, slender forked sticks in the house, with two sticks across, one above and one below, and arrange or place the threads vertically, and then sit on the ground and begin to run the woof through, thread by thread, which they hit with a pointed stick of soto wood called Piuca. This, to be sure, is time consuming, if the threads are fine, but, on the other hand, the work is very durable.

291 286 231 249 [184] [177] Ponchos, Asoya, are of two types, one of wool and one of cotton; the first are common from the right bank of the Parapiti River southward and the second from the left bank northward, because in the first region sheep are plentiful, and in the second, cotton fields. Formerly, before the whites introduced cattle into the region, cotton was cultivated everywhere, *and from its product the men were dressed for ceremonies in* their Tíru and the women in the Mandu, which I shall discuss in the following chapter.

5:Nordenskiöld E-5,⅓ (1908-1909. 1913) 1920
SF10 Chiriguano SF10
Chané SF8

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Fig. 38. Vessel for serving maize-beer from the Chané. Río Parapiti. R. M. P. 313. 1/4.

XXII.

Pottery.

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The earthenware vessels of the Chiriguano and Chané are made in the usual way by building up layers of strips of clay[1]). Stones, mussel-shells and empty corn-cobs are used for smoothing the vessels. The last mentioned leave characteristic marks. It looks as if some comb-shaped instrument had been employed. These marks diminish the smoothness of the vessel, so that it slips out of the hand less easily. Corn-cobs are therefore more especially used in the making of cooking-pots and large utensils. Judging by the pottery which I collected on my journeys, the practice of using corn-cobs in this way would seem to be derived from the mountain civilization. I have seen vessels marked in this way found at Ojo de Agua in the most northern part of Argentina, where they revealed the fact that the Indians that used these vessels had maize. On the other hand, they are lacking on the pottery which I found in my excavations at Caipipendi and in the whole of N. E. Bolivia. They are also lacking in Misiones in Argentina.

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[1]) See Part I

Schwerdenkblatt E-8½(1908-1909, 1912) 1920
SF10 Chiriguano SF10
Chané SF8

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The Chiriguano, as well as the Chané at Rio Itiyuro, have elaborate pottery of richly varied shapes and often beautifully ornamented. The Chané at Rio Parapiti have plainer pottery. The development of the ceramic art in the various tribes I got to know has differed greatly. The Chima and the Tambopata-Guarayo who are pretty certainly identical with them, are the only Indians I visited who have no earthenware vessels. The pottery of some tribes is a work of art, while others only make the most necessary household utensils. This is not necessarily connected with the tribe's state of civilization generally. Thus in several respects the Yuracire stand as high as the Chiriguano but the former have very poor pottery; the latter highly developed pottery. If such peoples were studied archaeologically, the former would yield hardly any remains while the latter would yield many beautiful specimens. Wrong conclusions might then be easily drawn as to the stage of civilization of the two tribes.

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Below will be found indicated how many different types of earthen vessels are found among the tribes I visited. It will be seen that the Chiriguano and Chané (Rio Itiyuro) have by far the largest number of shapes of earthen vessels.[1]) This is simply due to their having experienced such

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[1]) On entering a Chiriguano or a Chané hut, one sees a lot of earthen vessels of which the majority are unpainted. All the vessels of various shape and ornamentation which I have collected are from several hundred Chiriguano and Chané huts. It is a selection out of many thousand vessels which I have made and it shows how pottery varies within the tribes. In most Indian huts there will be found but a small number of different types. Unless we bear in mind that the collection is a selection, it leaves the impression that the pottery of these Indians is of much more varied shape than is really the case. What I remark here of my collection of pottery holds good of nearly all collections in ethnographical museums. When we see a cupboard full of various articles from an Indian tribe, we must not think that all these things are used by every family in the tribe. It is properly a collection of all the different objects used by a large number of individuals.

S:Nordenskiöld E-8/4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

strong influence from the area of civilization in the west and above all the south-west.

Over fifty types.	*Over ten types. but under fifty.*	*Over two types. but under ten.*
Chiriguano.	Chané. (Rio Parapiti)	Chacobo.
Chané. (Rio Itiyuro)	Choroti.	Chimáne.
	Ashluslay.	Yuracáre.
	Toba.	Churápa.
	Mataco.	Pauserna.
	Tapiete.	Guarayos.
		Huari.
		Huanyam.
		Cavina.

I am unable here to give an account of all the different shapes of earthen vessels found among the Chiriguano and Chané. Some of them have been depicted by OUTES but there are many more. Those depicted here should, however, give some idea of the variations in these Indians' pottery. Some types are local and thus characteristic of certain villages; others are certainly individual. Thus I have seen different women in the same village turn out very different vessels. Some women are noted for making specially fine earthenware. They are celebrated for their pottery far outside their own village.

The Chiriguano and Chané use earthen vessels for boiling and roasting their food, as receptacles for food and other things, for carrying water, for the serving of food, for the burial of the dead and to whirl the spindle on when spinning. (Only the Chané on the Rio Parapiti.)

We see that a large number of the earthen vessels here are provided with ears or handles. In Part I of this work I claim to have proved that the ear is a culture-element derived from the Andine area of civilization.

C Ce 415 *171 [252] Only a few vessels are provided with ~~spouts~~ lips in rims, which here seem to be an idea obtained by the Indians from the Whites. Bowls with holes in the bottom which are used for steaming have already been mentioned in the foregoing. This applies also to bowls for the roasting of maize.

The Chané on the Rio Parapiti have small plates which they sometimes use in spinning. I have not seen the like elsewhere. Occasionally one sees, among the most civilized C Ce [177] Chiriguano and Chané, fire-pans for holding hot water. (Fig. 43,21). They must have obtained the idea from the Whites.

C Ce ●323 The Chiriguano and Chané understand the art of painting earthenware before burning.[1]) I have already, in Part I, endeavoured to show the geographical distribution of this invention. Whether it was known to the Chané and Chiriguano before they settled in this tract cannot be decided. The pottery I found in the archaeological excavations at Caipipendi is unpainted.

C Ce [184] The Chané at Rio Itiyuro sometimes paint the edge of earthen vessels after burning with resin of palo santo. This is never seen among the Chiriguano and the Chané at Rio Parapiti. As such painting is common among several tribes in the Chaco, it is possible that the Chané at Rio Itiyuro got the idea from there. The Chiriguano and the Chané at Rio Itiyuro often varnish the painted vessels after burning with a kind of gum called by the Chiriguano — staragüirisi s.

The Chiriguano and Chané also ornament their earthenware by finger-impressions. This method of ornamentation has an eastern extension in S. America. A map showing its distribution is published in Part I.

The ornamentation painted on earthenware is seen in the illustrations. The Chané at Rio Parapiti usually have very plain ornamentation.

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[1]) For this purpose brushes of Aguti hair are used. (See also Wiener P. 82).

2/A [erratum corrected. See errata sheet p. 245.]

8:Nordenskiöld E-5,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

Maps of the geographical distribution of various kinds of ornamentation can scarcely be drawn up at present with the exception of a few very characteristic specimens, e. g. the spiral. This is found on earthen vessels from the Chané on the Rio Itiyuro, and from the Chiriguano, but not from the Chané on the Rio Parapiti.

The colours used by the Chiriguano and the Chané on the Rio Itiyuro are black, red, brown and white. The white is caolin, the red, brown and black are obtained by pulverizing schists of these colours. The Chiriguano sometimes mix Urucu with oil. Vessels are probably painted with this mixture only after burning.

Pottery is undoubtedly the chief art practised by the Chiriguano and Chané. We may, indeed, assert that it is the only one that is still of very great importance to these Indians. It is an interesting fact that, though these tribes have been in close contact with missionaries and other Whites for nearly 400 years, and though their country has been flooded with European goods, their pottery has been influenced very little by foreign culture. It is still genuine Indian. This holds good not only of its shape, but to an equally great extent of its ornamentation. It shows how conservative the Indian is towards anything that cannot make easier for him the struggle for life. A cultivated plant can spread in a few years over a large part of a continent, whereas one will not take the trouble to adopt a foreign ornamentation or foreign types of household furniture. This does not imply that the pottery of the Chiriguano and Chané *now has the appearance that it had 400 years ago*. It has changed, as the Indians themselves told me, but the change has chiefly consisted in ringing the changes on old Indian patterns. How and how much it has changed, can only be proved archæologically. Unfortunately, I do not possess the archæological material. What I found in the country of these Indians probably goes very much further back in time than 400 years, and has very little in common with

S:Nordenskiöld E-8yy(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

C Ce 323 177 the ceramics of the tribes here dealt with. The ceramic art we find among the Chiriguano and Chané is, as we saw, strongly influenced by the culture-zone in the west. There is a great similarity, as I said, to the pottery that has been found in the Humahuaca Valley. It is especially the finely painted pottery which, in shape and ornamentation, recalls the pottery of the culture-zone in the west. The simple cooking-pots ornamented with finger-impressions more closely resemble what is found in the old Guarani territory in Misiones. The main difference is that the pots used by the Chiriguano and Chané are provided with ears (handles), which as a rule are lacking in the pottery from Misiones. The ear, as I mentioned, is a western culture-element. I think the explanation may be, that when the Chiriguano conquered the districts they now occupy, their own women generally or always made earthenware with finger-impressed ornamentation. As we know, the immigrant Chiriguanos [C 727] carried off masses of women, presumably from Chané for the most part, but probably also from other tribes. The women abducted from the parts bordering on the old kingdom of the Incas were no doubt skilful potters, and afterwards taught their art to their daughters. It is this that now continues in the finer pottery, especially in the vessels used at great drinking-bouts.

It is very evident, as we see, that the Chiriguano and Chané pottery has been strongly under the influence of the culture-area in the west. It would be of great interest to show how far it has also been influenced by the Arawak pottery at Mojos. This cannot, however, be conclusively proved. Not even among the Chané at Rio Parapiti can any such influence be traced. This is probably because it is so long since the Chané migrated to their present district.

[Ce 184] It may be asked how it is that the Chané at Rio Parapiti have pottery which is plainly less influenced by the mountain civilization than that of the Chiriguano and the

S:Nordenskiöld I-5 #(1908-1909. 1913) 1920
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Chané SF8

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Chané at Rio Itiyuro. This may be owing to their poverty.[1] Maize-beer does not flow so abundantly there as it does among the Chiriguano and the Chané at Rio Itiyuro. The finely painted vessels are intended for festivals, and it is especially on those occasions that one sees double pitchers and other types reminiscent of mountain-culture pottery. The Chané at Rio Parapiti dwell rather remotely, at a considerable distance from the culture-area in the west. Their calabashes, too, are more plainly ornamented than those of the Chiriguano and the other Chané. This may be due partly to poverty and partly to their isolated habitation.

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[1]) I regret that I did not study the question of the supply in different places of good clay suitable for earthenware. Where the clay has to be brought from afar, it is unlikely that the pottery will be highly developed.

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things. The ceramics /160/ which I found there belong among the very best that I saw among these Indians (Figs. 77 and 78).

From Maringay I returned to Ivu by way of the mission station of Santa Rosa. It has a wonderful location. Like an old fortress, it is built on a narrow hill. Below it, in long rows, lie the grayish-brown Chiriguano huts surrounded by low woods of Mimosaceae, cacti, small algorrobas, and other fine-leaved trees. This woodland is seldom so dense than one cannot easily get out of it without a bush knife. When I was in Santa Rosa,

Fig. 78. Clay vessel made by the wife of the Chiriguano chief Maringay. 1/7.

it was the dry season and everything was burned up. Here too, however, rain probably entices the green out of the dry earth. Sometimes the rain is so long in coming, however, that the Indians do not get any maize and that means -- hunger.

From Santa Rosa one looks far out over the mountains and across the great plain of Boyuovis, over the country that was the native land of the Chiriguano, where, at Curuyuqui, they fought their last battle with the Christians, who assume the right to rob all weaker peoples.

After my excursion to Maringay I left the land of the Chiriguano and Chané and paid my second visit, already described in this book, to the Choroti and Ashluslay.

/192 cont./ Ee 524

On the Rio Pilcomayo three pins were used on each side. The distance between the pins of the opponent was three ells. Ee [804] Each pin consisted of a shelled ear of maize, and the distance between them was supposed to be a hand span (1). The balls [323]

1. Longest distance between thumb and little finger.

used are made of fired clay and are hollow, with small, rattling pellets inside (Fig. 99). /Plate 17 appears here./

C Ce 524

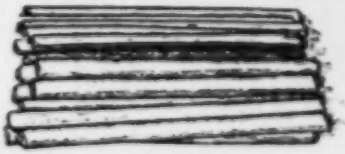

Fig. 95.
Little sticks for the tshűcareta game. 2/9.

/193/ The Life of the Indian Children C Ce 855

If one speaks of the life in the villages, one must not forget the children. The children play, but also help the adults. They are reared like the Choroti and Ashluslay children. They spend their lives in happy freedom, without thrashings and harsh words.

The Chiriguano and Chané children have a number of games and toys which one never sees the children of the whites in Bolivia use, and all of which seem to me to be genuinely Indian. Ee 524

First of all, the Indian children play the games of the adults that I have already mentioned. Of the Choroti and Ashluslay games, they are familiar with the hockey-like game of ball, which the Chiriguano call "tăca." I did not see it played among the Chané. As goals they use pits, and sometimes they hit the

[text continues on p. 47] ball with rackets. Ee 857 526 [171]

6: Nordenskiöld--85 E-5 (1908-1909) 1912 SF10 Chiriguano SF 10
Chané SF8

/234/

Chapter Fifteen

Drinking Bouts among the Chané and Chiriguano

Ee 178 527 273 [538] [805]

If a Chané or Chiriguano tells a legend, he often begins it thus: "A long time ago there was once a great drinking bout." If he reports something that happened, some illness of a relative or the like, he will say: "It was before or after the festival." Indeed, at these festivals one hears and sees most of what has remained of the old culture of these Indians. This is when the most beautiful clay vessels appear, this is when one sees costumes from olden times, this is when the stone ornaments are taken out of the treasure jars.

Ee 273 415 527 531

Among us a housewife is proud if she can show her guests beautiful tablecloths and fine porcelain. The Chané and Chiriguano women think the same way. At festivals each woman wants the maize beer at her house to be brought out in clay vessels more beautiful than those of her neighbors and to be served in calabashes that are more elegantly decorated than those of anyone else.

Ee 531 [527] [323] [462]

That is why, before each festival, the women are occupied with making clay vessels and the men with the decoration of calabashes. In the Chané and Chiriguano villages one sees magnificent collections of clay vessels. A few women in particular know how to paint these with superior skill and elegance. One almost never sees three jugs that are entirely alike. Each one tries to appear at the festival with something original, to paint something new and pretty. As far as linear /235/ ornamentation is concerned, they know how to vary the old ornamentation, but they do not know how or do not want to free themselves from them and open up new paths. The /Fig. 116 appears here/ Indian woman is conservative in her art and is able /236/ to free herself from the models of her mother's or grandmother's time only if she takes her motifs directly from nature and paints animals. By no means all the women in the villages are artists. There are some whom nature has endowed with the gift of art, and some true bunglers. Who can paint clay vessels as one of the wives of

Ee [101]

6: Nordenskiöld--92 E-5 (1908-1909) 1912 SF10 Chiriguano SF10
Chapo SF8

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Chapter Sixteen

On the Life of the Chané and Chiriguano Indians (Continuation)

Art and Industry

The Chiriguano and Chané are tribes whose art-industry is on a very high level. If one visits one of the huts of the white settlers in these regions, one will not see many products of native industry, not much of their own culture. I know of absolutely nothing that these people are capable of doing which can compare with the pottery and the weaving technique of the Indians. One thing is certain, the more "civilized" the Indians become, the less they accomplish in the way of art and industry. They do not learn much more from the whites than how to make and drink liquor. Indian art-industry is gradually disappearing here, the more the Indians come in contact with the whites, but it is not transformed. It remains largely purely Indian until its final destruction. One industry, however, is now in the hands of the whites, namely, the metal industry. The silver ornaments which, for example, the Chiriguano and Chané use are made by the smiths in the villages of the mountain regions. The half-white or Quichua /Quechua/ Indian population which we come across in the mountains west of the land of the Chiriguano and Chané Indians is quite skilled artistically. The weaving technique in particular is very highly developed there. The Chiriguano and Chané undoubtedly learned a great deal from the west.

Thus we find the serére *pipe*[1] *(Fig. 120) characteristic of* the Chiriguano in collections from the coast of Peru (1); /Plate

1. Serére also occur among the Lengua, Ashluslay, Chiriguano, Chané, Churipa, and Yuracáre.

19 appears here/ /243/ the pin for fastening women's clothing

[2] [A flute-like musical instrument--Analyst]

[TEXT CONTINUES ON P. 99]

6: Nordenskiöld--94 E-5 (1908-1909) 1912 SF10 Chiriguano SF10
Chané SF1

/243 cont./

(Fig. 130) is typically Peruvian in form, as is the silver hair remover, of which, however, I have no specimen. The festive costume of the man (Fig. 81) also seems to me to have a Peruvian cut. It is possible, however, that the influence of Peru did not manifest itself among the Chiriguano until after the conquest of the plateau by the Spanish.

Boman (1) has proved that the Chiriguano, or more correctly the Gûarani tribe to which these Indians belong, formerly extended much farther south than they do now. He found there the grave urns so characteristic of them.

1. Boman: Antiquités de la Région Andine. Vols. 1-2. Paris, 1908.

Fig. 120. Serére pipe. Chiriguano. 1/4.

The material culture of the Chané Indians does not, in general, differ very much from the culture of the Chiriguano. The Chané, on the other hand, who are more isolated on the Rio Parapiti, have a completely independent pottery which we do not find again among the Chiriguano. If we compare the remaining products of Chané and Chiriguano industry, we do not find any greater differences than we find in the various Chiriguano villages themselves.

For example, if one collects clay vessels in the Igurumbe valley and in the Caipipendi valley, both of which valleys are occupied by Chiriguano, one inevitably finds that the pottery, though strongly related in ornamentation and form, nevertheless /244/ also varies locally. I have already spoken of the individual variations (p. 85).

/244 cont./

Of the various industries, pottery stands particularly high among the Chiriguano and Chané (see the illustrations). They are also skilled weavers and decorators of calabashes. Basketry occurs, but chiefly in the northern part of their region. Feather work is no longer done at the present time. Only ropes and fish nets, and on the Río Parapití hammocks and carrying nets, are made with caraguata hair. The bags of this material, so characteristic of the Chaco tribes, are never made by the Chiriguano and Chané, but are occasionally acquired by trade between the tribes.

Among the Chané on the Río Itiyuro I followed the making

Fig. 121. Clay vessel. Chiriguano. Caipipendi valley. 1/4.

of pots. The clay is ground and mixed with pounded, fired potsherds, so that the vessel does not fall apart during the firing. The clay vessels are built up out of rolls in customary Indian fashion. For smoothing a mussel shell or a maize cob without kernels, as well as a narrow little bamboo stick, is used. The maize cobs make parallel, fine scratches (1). The bamboo stick

1. From similar scratches on clay vessels which one finds in archaeological diggings, one can see that the makers of the clay vessels had maize. I have seen this, for

Ce 323 531 ee [237] [413]

/245 cont./

The coarser vessels, as well as all cooking vessels, are decorated with only finger imprints and clay loops put on them. The finer vessels are subsequently painted (see Pl. 19 /see p. 93/). /246/ With a brush made of agouti hairs (1) the decorations are

1. Dasyprocta.

Ce [386]

painted in white, dark brown, and black. The white pigment is a kind of earth (kaolin); the others are made out of slate and sandstone. They paint freehand and compose the decorations from

Ce 323

memory, not from models. Wood, maize cobs, and cow excrement are heaped around the vessel. The fuel is lighted and must burn with a vigorous fire for a quarter of an hour or, if the vessel is large, even longer (Fig. 122).

Ce [314] [824]

If the vessel has been painted, it is varnished with resin, "taraviruti," which is collected from a Mimosoideae, and with resin from the palo santo (see p. 93 /untranslated; Palosanto is identified there as Bulnesia Sarmienti/). The former gives a yellowish polish; the latter looks like greenish-black glaze.

Ce [789]

When a pot is made, it is baptized before it has cooled, so that water will boil rapidly in it.

c 531 323 386

In Maringay's village individual vessels were painted with a mixture of urucú or some other color and a vegetable fat. I was unable to see how this latter was prepared.

Ee 286

The Chiriguano and Chané women are skillful weavers. The material for the Indian weaving is, as a rule, cotton and sometimes sheep wool.

Ee [439] [177]

Since large quantities of cloth are imported by the whites, native weaving is disappearing more and more. Thus, I did not see any looms among the Chané in the Itiyuro valley, and native woven goods were very rare.

Ee 286 531 [797]

As a rule, all the weaving of these Indians is without ornamentation, or else this is very simple. The girls in the missions learn from the monks how to embroider all kinds of flowers, such as roses, violets, etc. They do this superbly.

6: Nordenskiöld--100 E-5 (1908-1909) 1912 SF10 Chiriguano SF10
Chane SF 8

Ee /248 cont./

439 When we present a collection from the Chiriguano and Chané,
177 we must not forget that, through trade between the tribes, they have obtained many things from the Mataco, Toba, Choroti, and Tapiete; otherwise we would have a mistaken conception of the
Ee great difference /249/ between the material culture of the Chaco
171 tribes named here and the Chiriguano and Chané.

Ee If we compare the material culture of the Choroti and Chané
[285] with that of the Choroti and Ashluslay likewise described here, we must remember the following. The Chiriguano and Chané produce basket work -- the
C Choroti and Ashluslay never.
Ca The former know how to paint
[323] clay vessels before firing,
Ee which is unknown to the latter.
[28K] The Chiriguano and Chané never make bags out of

Fig. 136.
Decorated calabash bowl.
Chiriguano. Tacuiba. 1/5.

[4157] → [531]

caraguata, etc. If, moreover, we compare all the products made by the Chané and Chiriguano with those of the Choroti and Ashluslay, we find that most of them are entirely differ-
C ent. The Chaco Indians probably learned how to make certain
[177] things, such as the serére (Fig. 120) and huiramimbi pipes (Figs. 36 /omitted in the translation/ and 80), from the Chiriguano,
Ee but this is relatively insignificant.
177 We see here how two cultures can exist side by side for hundreds of years without mingling.

Ee If we follow the Rio Pilcomayo down toward the mountains,
101 we first come across the Quichua /Quechua/ culture, then come the Chiriguano and Chané, and after that the Chaquenic /Chaco/ culture which embraces equally the Mataco, Toba, Choroti, and Ashluslay, as well as the Lengua and other tribes in the Paraguay Chaco. These three cultures are entirely different.

two barbed prongs made of some hard wood (figs. 213 and 214). The arrow in fig. 210, which has only one prong, is used both in hunting and for fish-shooting. The Chiriguano also use fish arrows pointed with a number of cactus spines.[1]

The fish spear has in later times become a very scarce implement with the Chiriguano. The only specimen obtained, as far as I know, is the one brought home by me, and now belonging to the Riksmuseum in Stockholm (figs. 215 and 216). Erland Nordenskiöld, who has compiled a map of the distribution of the fish spear in South America, has been kind enough to inform me that the only mention he has come across in the literature, concerning its occurrence among the Chiriguano, is to be found in the account of the Viceroy Francisco de Toledo's unsuccessful expedition against these Indians.[2]

The fish spear I came upon among the Chiriguano in the neighbourhood of San Luis, has a 260 cm long shaft, made of some light kind of wood, very free from knots,[3] at one end of which two barbed wooden prongs are lashed on by means of a thin leather thong. The full lengths of the prongs are, respectively, 32.1 and 31.5 cm, and they project 20.2 cm from the shaft. One of the points has, however, been of a somewhat greater length, but has got blunted off. Both points have seven barbs on their outer sides. To ensure a perfectly firm fastening of the prongs, the fore end of the shaft has been wrapped with a piece of cloth, and over this the prongs have been lashed on.

I have already enumerated the various kinds of Chiriguano household furniture. Among them, clay vessels hold a very important place. The Chiriguano are clever potters. It is only the women, though, who work at this industry.

In fig. 217 we see a potter's workshop, with a number of finished and unfinished pieces of earthenware. At the hut entrance is sitting a woman, who, with a piece of stick, is giving a finish to a large pot, which has been built up of rolls of clay, and is still unburnt.

In figs. 218—223 I have reproduced some typical Chiriguano clay vessels that I collected at Aguayrenda. These vessels are particularly well made. The peculiar rim warts seen on the hanging vessel in fig. 223,

[1] Nordenskiöld (10), fig. 13 a.
[2] Acosta (1), Part I, Chap. XV.
[3] Unfortunately, during the transportation home, the handle was unknown to me, and was thus lost.

T: Rosen E-5 (1951-1962) 1924 SF10 Chiriguano SF10

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[P. 216 is blank]

323 counterparts of which are found on many ancient Peruvian clay vessels, have been more fully described by me in »En förgången värld».[1] The cord by which this vessel was suspended passed round the edge, and then upwards, between the points of the rim warts. At each wart a hole has been pierced through the rim of the vessel, but these perforations are so very small that they cannot very well have been used for fixing any string by which to hang up the vessel.

Besides the clay pots here reproduced — often graceful of shape and beautifully painted — there are also plain, unpainted clay vessels for cooking and other kitchen purposes. Chiriguano ceramics are of an exceedingly great variety as to form, and many of the shapes are identical with those of clay vessels found in ancient Indian graves and in the ground of ancient dwelling-sites in those regions of the Andes that border on the present Chiriguano country.

824 Next to clay vessels, bottles and bowls made of calabash may be said
415 to predominate among the household furniture of the Chiriguano. The bowls are often provided with pokerwork ornament (fig. 226).

273 On festivals — and also usually, though not always — the Chiriguano drink an intoxicating liquor (»chicha», in Chiriguano: »cangui»), which they prepare from maize. In [415] huge wooden mortars the maize is [531] pounded to flour, which is poured into large clay vessels filled with → water. This mixture is made to boil, and when it has cooled down, lumps of chewed maize dough are put into it to produce fermentation. These masticated mouthfuls of maize are usually allowed to dry in the sun, before use, and are then frequently spread on a [114] bedstead (fig. 190). This method of preparing maize beer naturally

Fig. 218. A jug for holding maize beer. Earthenware. Bottom part and inside unpainted. The rest painted brownish yellow, with ornaments in dark brown (marked in black) and red (marked in thin lines). Chiriguano. Agua-yrenda. Bolivia. 2/3. Riksm. 03. 3. 837.

[1] von Rosen (1), p. 344 et seq.

846
[844] come into the world. But, in observance of a custom largely prevalent among the Indians of South America, the husband pretends for several days to be lying in childbed, and then keeps an invalid diet!

755 Illnesses are treated by medicine men, who by incantations and other
756 resorts of magic try to expel the evil.

764 After a death, the corpse is placed in a large earthenware jar, which
763 is put into a hole dug in the ground. According to what a Spanish-speaking Chiriguano Indian told me, it was formerly customary to sever, by incision, the spine of a dying person, in order to shorten his death agony. Before life was extinct, the body was thrust into a huge jar, into which also ornaments, weapons, food and drink were put, the mouth of the vessel then being carefully closed up with an earthenware platter. It was important that the lid was put on before the dying person had drawn his last breath. By doing this, it was thought that the soul of the dead [775] would for a time be held in confinement, so that it would not be able to work any harm on the living.[1] The jar was afterwards interred inside the dead person's hut.

181 With the exception of the Chané — a tribe on the same cultural level as the Chiriguano — the latter seem to me a people considerably superior to the neighbouring tribes, whether inhabiting the mountain regions or the Gran Chaco. Both the mountain- and the Chaco Indians are dirty and of uncleanly habits, whilst the Chiriguano on the contrary [515] are very observant of bodily cleanliness. For example, the Chiriguano women bathe every day, and often several times a day. Among the [931] Choroti, the girls are in the habit of living in loose sexual relations with a plurality of men, before marrying, whilst the Chiriguano girls, as a [171] rule, preserve their chastity intact until they marry. Also as regards material culture, the Chiriguano and the Chané are on a higher plane than their present-day neighbours. When compared with the ceramics of the [323] peoples of the Chaco, the maize-beer vessels, for instance, that are characteristic of the Chiriguano and the Chané, stand out as veritable show pieces.

181 Of old, the Chiriguano have a reputation for being a very warlike
648 nation. As early as in the time of the Incas, this tribe made a raid into ancient Peruvian territory,[2] and even as late as 1890 the Chiriguano

[1] Cf. Krickeberg (1), p. 134.
[2] Nordenskiöld (16).

C 764 415

/53 cont./ described by him there is one which is 92 cm. high and has an aperture at the top 70 cm. in diameter. Another is 110 cm. high and its maximum diameter measures 85 cm. In 1845, in Capirendá, Wedell found such vessels with a height of 120 cm. and a maximum diameter of 100 cm. for the wall of the belly.

C 415 126

13. Various Vessels with No Indication Regarding Their Purpose, from the Collection

I. A. 410 (Chirig.). Ht. 14.5 cm. Max. dia. 8 cm. Apert. 5 cm. (Fig. 81b).

I. A. 411 ("). Ht. 13.5 cm. Length 21 cm. (Fig. 81a).

C C 415 126

I. A. 597 (Izozó). " 10.5 cm. Max. dia. 16.7 cm. Apert. 15 cm. (Fig. 72).

I. A. 599 (") " 9 cm. " " 13 cm. " 10 cm. (Fig. 70a).

C Ce 415 177

We have no evidence regarding the purpose of these four vessels which are different in form from the other types of vessels. We must regard the small, double vessel I. A. 411 (cf. Fig. 81a /see p.144/) as a special result of the mixture of various, but different cultural elements. The way in which the two small dishes are joined to form a double vessel /54/ corresponds to ancient Peruvian models, while the form of the handle, fitted with a ring, is doubtless an addition of European origin. The whole has the form of a salt cellar and was perhaps made to be sold to the whites for this purpose. We must also consider the vessel I. A. 410 (cf. Fig. 81b /see p.144/) as merchandise, while the two vessels I. A. 597 and 599 seem to be manufactured for some use in festivities.

C Ce [439]

Baked Clay Spindle Whorls

C Ca 283 323

The spindle whorls collected among the Chiriguano and Izozó are of baked clay or wood, and the Chiriguano also have some spindles with stone whorls. Because I shall deal with spindle whorls in the chapter on spinning, I wish only to

8: Schmidt--137 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo

/54 cont./

point out here a difference between the baked clay whorls of the Izozó and those of the Chiriguano with regard to their manufacture. The whorls of the latter are made of pieces of clay from any broken vessel, by filing them round and perforating them in the center, while the whorls of the Izozó consist of a small disk with different variations in form, also perforated in the center, but made of baked clay especially for that purpose.

Concerning the pottery technique of the Chiriguano and the Chané, we are well instructed by the data given by Nordenskiöld, S. Linné, Métraux (236), and Campana (237).

236. Nord. 1, pp. 244 and 245. S. Linné: The Technique of South American Ceramics. Göteborg, 1925. Métraux 1, pp. 382-388.

237. Campana (Doménico del), "Notizie intorno ai Ciriguani /Information concerning the Chiriguano/," Archiv per l'antropologia e la etnologia, Florence, Vol. 32 (1902), p. 382.

Especially noteworthy among these is the description of the manufacture of baked clay vessels by the Chané on the Itiyuru River, which Nordenskiöld studied in its entire procedure. In the book written by Linné, entitled The Technique of South American Ceramics, we find, in addition to the systematic arrangement of the observations made by Nordenskiöld among the Chiriguano and Chané, important data on the results of chemical analyses and microscopic observations which Linné made on the vessels of these Indians. According to this information, the procedure for manufacturing these vessels is the following:

The first condition for the manufacture of baked clay vessels is the availability of suitable clay which has sufficient plasticity so that the vessel can be modeled and fired without being broken. Only a clay with special qualities can meet

8: Schmidt--138 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF8

/54 cont./

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these two requirements. Generally it is necessary to correct the defects of the available clay, fixing it by the addition of other substances. Thus the Chiriguano and Chané add to the clay pieces of crushed baked clay. The Chiriguano women in Tarapayu like to use as such an additive, which they call "takupe," pieces of baked clay of ancient origin which they find in great number in their territory and which substance also contains, according to microscopic investigation, pieces of baked clay added to the clay (238).

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Ce
[113]

238. S. Linné, op. cit., p. 36, Fig. 2, and p. 70. Nordenskiöld, Erland: Forskningar och äventyr i Sydamerika /Research and Adventure in South America/, Stockholm, 1915, p. 34. Nord. 1, p. 284.

From the quality of the substance of a baked clay vessel of the Chané of the Parapití which is in the Göteborg museum, it turns out that these Indians also add sand to the clay, in addition to pieces of crushed baked clay (239). By microscopic

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239. S. Linné, op. cit., p. 33.

analyses of sections of vessels, Linné was able to demonstrate /55/ that pieces of baked clay were added to the clay of the Chiriguano. As a result of these analyses, he points out the following: "Microscopic section analysis of Chiriguano ceramics have shown the materials to contain, besides small quartz grains and larger grains of other minerals, particles of the same colour as the ground-mass, but with distinct outlines. These are due to ground potsherds. There are also some very dark particles, as well as lighter ones, and they, too, are potsherds. The variation as to colour is due to the vessels often in the firing, becoming quite differently coloured in their outer and inner layers" /cited in English/ (240).

240. S. Linné, op. cit., pp. 37 and 68.

/55 cont./

Ce 323 [114] According to Nordenskiöld's observations among the Chané in Itiyuru, the clay to be used for the manufacture of a vessel was first crushed and then mixed with pieces of baked clay also crushed. We do not know how the clay thus prepared is transmuted by the addition of water into the needed plastic substance. The construction of the vessel is done in the manner most common among South American Indians. First a disk with a raised rim is formed from the clay prepared in the manner described, and this is placed on a piece of cloth or a board. The wall is built on this part, which forms the base of the vessel, by means of rolls of clay which in the form of rings, are placed on top of one another (241). Stones and

Ce [171]

241. Nord. 1, p. 244. Nord. 2, p. 137. S. Linné, op. cit., p. 78. Métraux I, pp. 373 and 384.

narrow little sticks of cane are used to smooth the surface of the vessel made in the manner described. These are also used as a gauge to obtain the proper proportions. To rub the surface of the vessels intended for cooking and that of the larger vessels, a maize cob is commonly used, which makes sunken parallel lines so that the surface of those vessels is less smooth(242).

Ce [824]

242. Nord. 1, p. 244. Nord. 2, p. 137. S. Linné, op. cit., pp. 107 and 108. Métraux I, p. 384.

C 323 Using the method described in the above, the Chiriguano manage to make excellent, solid vessels which show a well-proportioned form of wall. According to measurements made by Linné, the radial difference of the aperture of the Chiriguano vessels, whose apertures on top have a diameter of from 15 to 20 cm., is less than 1 mm. (243).

243. Linné, op. cit., p. 78.

/55 cont./

323 Data on the thickness of Chiriguano vessels have been given by Outes in his publication which we have mentioned. According to him, "the walls of the vessels, in general, do not show great thickness; in those of larger size, they are from 15 to 20 millimeters; in the medium ones, they do not exceed 8 millimeters; in the small ventricose jars, they vary between 7 and 4 millimeters. As an exception to those, Outes mentions a small vessel with a height of approximately 6 centimeters and a maximum diameter of 12 centimeters, which is relatively thick, since its side walls are from 7 to 9 millimeters and the bottom reaches 15 millimeters (244).

244. Outes, op. cit., p. 128.

323 531 A large part of the vessels are provided, even before being baked, with handles or with different kinds of decoration on their surface. The surface of the neck of the vessels intended for cooking is decorated with sunken ornamentation by impressions made with the finger. Rings of clay are put on the surface of some vessels, as is shown by the piece of baked clay from a Chané vessel shown in a drawing by Linné (245), or the surface

245. Linné, Fig. 31. Nord. 1, p. 245.

is provided with small additions. Cf. the vessel shown in Fig. 44 /see p. 116/. The finer vessels are painted before the firing. The designs are applied in white, red, dark brown, and black (246).

246. Nord. 1, p. 246.

413 237 The white color in general is the background color, on top of which are applied /56/ the other colors. For that tiny brushes made of agouti hair or of feathers held together with wax are used (247). The white color is an earth paint (kaolin), the red.

247. Métraux I, p. 385.

C 386 323 531

/56 cont./The white color is an earth paint(?kaolin), the red, dark brown, and black are pulverized mineral substances of the corresponding colors (248). Métraux has published the results

248. Nord. 2, p. 145.

of chemical analyses and petrographic observations which he made on these mineral colors (249).

249. Métraux I, 385.

According to Nordenskiöld, the Chiriguano at times paint their vessels with a paint consisting of a mixture of urucú and oil, which is probably applied after the vessel has been baked (250).

250. Nord. 2, p. 145.

C Ce 323

Before the vessel is baked, it must be quite dry. In the case observed by Nordenskiöld among the Chané on the Itiyuru River, the vessel was dried for a day in the shade, which can be done, according to another note by Nordenskiöld, in the sun as well (251). The baking is done, according to Nordenskiöld's

251. S. Linné, op. cit., p. 121.

observations, by piling firewood, maize cobs, and dry cow dung around the vessel. This fuel must burn with a strong fire for a quarter of an hour and, if the vessel is large, even longer (252).

252. Nord. 1, p. 246. Cf. Nord., Fig. 122.

C 323 [824]

Some of the Chiriguano vessels are varnished. According to Nordenskiöld, such vessels are common among the Chiriguano and Chané on the Itiyuru River. They smear them with the resin of a Mimosoidea, which the Chiriguano call "taraviruti." When varnished in this way the vessels acquire a yellowish sheen. Only the vessels of the Chané on the Itiyuru sometimes show black

Ce 323 824 386

8: Schmidt--147 E-5 (1935) 1938 SF10 Chirigwano SF10
Chine SF8
Izozo

C
283
322

Plate XXV

Fig. 87

C
283
323

Fig. 88

C
283
323

Fig. 89

Fig. 90

C
Ce
286
413

Fig. 91

/The captions are on p. 148./

Sr Schmidt--148 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane 3F8
I2020

/Captions for Plates XXIV and XXV./

Plate XXIV

Fig. 85. Spindles. a-d (Izozó), e Chiriguano:
a (I.A. 734), length 51 cm.; b (I.A. 703), length 41 cm.; c (I.A. 716), length 41 cm.; d (I.A. 691), length 40.5 cm.; e (I.A. 475), length 42 cm.

Fig. 86. (I.A. 725 a and b) Basket (height 12 cm.), cotton seeds, raw cotton, and a spindle with thread, and a ball of cotton thread (Izozó).
b (I.A. 736), ball of cotton thread (Izozó), dia. 8.5 cm.

Plate XXV

Fig. 87. Wooden spindle whorls (Chiriguano): a (I.A. 478), dia. 6 cm.; b (I.A. 474), dia. 5.2 cm.; c (I.A. 480), dia. 6 cm.; d (I.A. 471), dia. 5.3 cm.; e (I.A. 479), dia. 4.3 cm.; f (I.A. 477), dia. 5.2 cm.

Fig. 88. Spindle whorls, a-c of baked clay, e-f of stone (Chiriguano): a (I.A. 486), dia. 6.2 cm.; b (I.A. 487), dia. 5.3 cm.; c (I.A. 483), dia. 5.3 cm.; d (I.A. 481), dia. 4.8 cm.; e (I.A. 482), dia. 4.2 cm.; f (I.A. 484), dia. 5.7 cm.

Fig. 89. Baked clay spindle whorls (Izozó): a (I.A. 701), dia. 4.7 cm.; b (I.A. 687), dia. 5.2 cm.; c (I.A. 700), dia. 4 cm.; d (I.A. 707), dia. 3 cm.; e (I.A. 696), dia. 3 cm.; f (I.A. 690), dia. 4 cm.; g (I.A. 692), dia. 4.5 cm.; h (I.A. 699), dia. 4 cm.; i (I.A. 695), dia. 4.2 cm.

Fig. 90. Baked clay spindle whorls (Izozó): a (I.A. 734), dia. 4 cm.; b (I.A. 708), dia. 3.8 cm.; c (I.A. 709), dia. 4.3 cm.; d (I.A. 721), dia. 3.7 cm.; e (I.A. 722), dia. 3.3 cm.; f (I.A. 720), dia. 4.4 cm.; g (I.A. 711), dia. 4.3 cm.; h (I.A. 713), dia. 4.2 cm.; i (I.A. 710), dia. 4 cm.

Fig. 91. Implements for weaving: a (I.A. 500), implement for arranging the warp threads (Chiriguano), length 30.5 cm.; b (I.A. 674), implement for arranging the warp threads (Izozó), length 30 cm.; c (I.A. 672), wooden sword for weaving (Izozó), length 30 cm.; d (I.A. 727), shuttle with cotton thread (Izozó), length 33.3 cm.; e (I.A. 728), shuttle with cotton thread (Izozó), length 27 cm.; (I.A. 513) reel (Chiriguano), length 35 cm.

1: Pelleschi--107 C-5(ca.1875) 1876 SI7 Mataco
Chaco Indians SK4
Chiriguano SF10
Cha 764 172

with many bodies in it.

In the mountains of Salta and in the highlands of Jujuy there are graves ("Huacas") in the shape of small vaulted stone ovens (2) similar to those used in that locality by the country

2. Also called "trojes" ["granaries"--Translator].

people. There are often as many as three bodies in these graves squatting on their haunches and wrapped or covered with clothes and sometimes having beside them pans containing objects of silver and gold. Nowadays the Christian Indians descended from those Indians who were under the sway of Perú and the Incas, hunt around among these graves and gather the bones so as to have masses said for them (so they say) but they almost always find that the good ol' others has been there before them so that although they find the bones they rarely come upon the precious objects which were buried with them. One cannot say what kind of clothing they wore for as soon as the graves are uncovered contact with the air reduces all to dust.

The Chiriguanos of the Bolivian Chaco also place their dead in large pots or jars and bury them beneath the floor of their huts. Each house is thus a habitation for both the living and the dead and, be this either a cause or an effect, or both in combination, the fact is that the Chiriguanos are not nomadic. They paint the above mentioned jars with great care, the jars being of various types and variously decorated in accord with the wealth of the family concerned. The pots are fired and the glazing material, which is a sort of red, bad smelling tar, is applied either on [206] the unbaked or baked clay. If the former, the result is a more shiny, light colored finish, if the latter, then the end product is of a darker hue.

Chi 764

Chi [323]

On the lid of the buried jar a fire is kept going for a whole month, doubtless (if this report is true) to destroy the foul gases given off by the rotting body.

Those Chiriguanos who are poor and cannot afford these jars bury their dead in a trench inside the hut and then move away until the bad odor has ceased.